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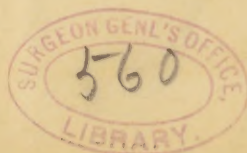
THE RACIAL AND GEOGRAPHIC DISTRIBUTION
OF TRACHOMA IN THE UNITED STATES
OF AMERICA.

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At the meeting of the International Medical Congress in Berlin trachoma came in for a considerable amount of discussion. The question of race was presented, principally by Dr. Chibret, of Clermont-Ferrand, France, and myself, Chibret pointing out that the pure Celt was to an extent immune and I that the negro in the United States was practically exempt. It was then under discussion to form an International Committee to report on the racial and geographic distribution of trachoma, but under the rules of the Congress it was not found possible. A collection of statistics and opinions, however, was informally decided upon and last year Dr. Chibret was appointed Chairman of a Committee by the French Society of Ophthalmologists to report on the subject at its meeting in May, 1896. Dr. Chibret asked me to coöperate with him and furnish data from the United States. The following is a copy of the report sent to him and which will be published in full in the Transactions of the Society.

In collecting these statistics and opinions respecting the geographic distribution and the influence of race upon the development of trachoma in the United States, I addressed



letters of inquiry to gentlemen of known experience and judgment residing in various sections of the country.

To these letters thirteen replies of greater or less fullness were received, which will be given in more or less detail in a subsequent part of this report. In summarizing the results obtained from an examination of these replies, we shall take the points under discussion seriatim:

1. All recognize the existence of a follicular conjunctivitis as distinct from true trachoma, though many acknowledge the difficulty of making a differential diagnosis in the earlier stages of the disease; and for this reason, no doubt, the percentage of trachoma in general is higher than it should be.

Andrews, of New York, while holding that pathologically and histologically there is no distinction between follicular conjunctivitis and true trachoma, is yet forced to admit a difference in their clinical course.

All who express an opinion recognize in trachoma a disease whose final termination is a destruction, to a greater or less extent, of the conjunctival tissue, with cicatricial contraction, leading to entropion.

2. As to contagion, opinions differ, though many are inclined to question its virulency. Some state that they have no knowledge of the direct transference of the disease from one person to another, and that it is not usual for more than one member of the same family to be affected with the disease at the same time, and that sometimes only one eye is attacked.

Others state in a general way that they believe the disease to be contagious, and two report a direct infection of an eye by the material expressed from a trachomatous conjunctiva by the forceps during the operation of "squeezing." These experiences while seeming to favor the contagiousness of trachoma, are not by any means conclusive; for while the discharge from the conjunctiva of an eye suffering from trachoma may be, and in certain stages of the affection usually is infectious to a degree, the diseased process following the infection is not necessarily trachoma. The infecting material produces an inflammation of the conjunctiva, and this conjunctivitis may lead to the development of trachoma in an eye predisposed to it. Usually the disease remains a follicular or a simple conjunctivitis.

The idea of the contagiousness of trachoma became firmly

impressed upon the professional mind when all forms of chronic conjunctivitis were classed as trachoma, and like all such accepted notions is not easy to eradicate. To establish the essential contagiousness of trachoma, as such, it is necessary to discover and isolate its peculiar microbe, and produce the disease in a sound conjunctiva. This has not been done in a manner satisfactory to the majority of investigators.

Moreover, the fact that the disease is not always most rife or pernicious in the over-crowded habitations of cities, but occurs with equal virulency in sparsely populated country districts and mountain regions (Ayres, Ray), would indicate that pure contagion plays an unimportant rôle in the development and spread of the disease. The statement that the disease is particularly rife in schools and asylums is not by any means universally true; and when such is proved to be the case, we should not attach all the blame to contagion.

3. The cosmopolitan population of the United States furnishes a fine field for studying the influence of race in the origin and propagation of trachoma.

There is no white race represented to any considerable extent in the United States, which is not reported by some one as liable to a greater or less degree. The Jews, the Irish, the Italians, seem to be the most affected. The Scandinavians also suffer, and the Chinese have the disease here as well as in China. The North American Indian,¹ I learn from other sources not comprehended in this report, is greatly afflicted; and I have myself, seen severe cases of the disease among them. The native "American"—that is, those born in this country, but whose pedigree is not known and which may be and usually is very heterogeneous, are by no means exempt. It is most interesting to note, in this connection, that the severe forms of trachoma in Kentucky and West Virginia, reported by Ayres and Ray, are among a population as purely American as any we have.

The only race among us which enjoys a practical immunity, is the negro. Callan (New York) does not recall a case

¹Dr. Chibret, in the report made to the French Society of which this paper is a part, states on the authority of a Canadian oculist, that the Iroquois, Hurons, Mic-Macs, Chippewas, Cris Santeux, etc., in Canada are absolutely immune against trachoma. This broad and sweeping statement I am forced to question, certainly as regards any of those tribes in the United States. I am in pursuit of further information on this subject.

among the negroes. Savage (Nashville) in a population 30 per cent. of which are negroes, has never seen a case among them, though it is very common among the whites of that section. Ray (Louisville) sees 800 to 1200 eye cases among the negroes annually, and not one of trachoma. It is common among the whites of that city. Phillips (Savannah, Ga.) has seen one case in the negro. White (Richmond, Va.), among a large negro population, has 43 cases of trachoma in 11,000 eye cases, one of which is a negro. Randolph (Baltimore), in the midst of a considerable negro population, no cases among the negroes. Ayres (Cincinnati) one case in the negro. Bruns (New Orleans, La.), in 1290 cases of conjunctival diseases (26.75 per cent. negroes), has 84 cases of trachoma in the white and 8 in the negro. As Bruns states that it is often difficult to make a clear differential diagnosis in the earlier stages, there is a probability of at least some of these 8 being follicular conjunctivitis.

In my own experience in Washington with a population about one-third of negro blood, and in a clinic nearly two-thirds of which are "colored," during a period of more than fifteen years, and with about 10,000 "colored" eye cases, I have seen not more than 6 negroes in which there was a suspicion even, of trachoma; and I have never seen a case of entropion in that race.

There seems, therefore, to be a perfect unanimity of opinion as to the practical immunity of the negro in the United States from trachoma. This coincides with the statements made by me in 1876, when I first called attention to the fact in a paper read before the International Ophthalmological Congress held in that year in New York, and reiterated on various occasions since.

The negro as a race still occupies an inferior position in this country, and the greater part of them live in crowded quarters and among unhygienic surroundings. They suffer much from tubercular and scrofulous diseases; and strumous affections of the conjunctiva and cornea form a large percentage of their eye troubles.

4. It will be gathered from a reading of these reports, that altitude has but little modifying influence upon the disease. In fact some of the most virulent cases are seen among the inhabitants of the mountains of West Virginia (Ayres;

also oral communication from Dr. Belt, now of Washington). Rivers, of Colorado, finds the disease at 5,000 feet, among railroad laborers; and even at an altitude of 10,000 feet at Leadville, Colorado. I have myself seen it among the whites of East Tennessee, more than 1,000 feet above the sea level.

Latitude seems to have but little influence also. It is no more common at Portland, Maine, or Portland, Oregon, than Savannah, Georgia, or New Orleans, Louisiana. The whites of the Middle States, of Tennessee, Kentucky and West Virginia are much more affected it seems, than either the extremes of North or South. Why these should be so severely affected is not at all clear. They are far inland and unaffected by the tide of immigration pouring into our seaport towns; and the foreign element which is most affected—the Irish, Jews, and Italians, form but an insignificant part of the population. Some parts of this territory are malarious, but others are mountainous and free from this miasm.

It would seem then, that trachoma is not to be found most commonly or in its most virulent forms, solely in the crowded precincts of cities, where contagion could have its fullest influence, nor always at low altitudes, nor in an equal degree among the poor and filthy of all races. In other words, environment plays a much less powerful rôle than has hitherto been supposed. Undoubtedly an inflammation of the conjunctiva of any kind will facilitate an outbreak of trachoma in an eye predisposed to the disease, in the same way that an attack of pneumonia will easily lead to an outbreak of tuberculosis in one with a tendency to that disease; but as we sift the evidence more and more carefully, we find that the idiosyncrasy of the individual is the important factor in the development of the disease.

In those possessed of a predisposition to trachoma, however, improper living and bad hygienic surroundings are, without question, large and most active elements in causing an outbreak of the affection; and in our therapeutics this should have a more prominent influence than it has hitherto had with the common acceptance of the disease as a mere local affection, instead of, as we believe, the manifestation of a dyscrasia.

DR. J. A. ANDREWS, New York City.—I am very sorry that I can not send you a satisfactory reply to your letter of

inquiry concerning trachoma. There is no subject in ophthalmology (with the exception, perhaps, of gonorrhœal ophthalmia) to which I have devoted more time and study than to that of trachoma, and I am very sorry to say that the results have been so unsatisfactory to myself.

I hold substantially the same views in regard to trachoma as those expressed in a rather lengthy article which I published in the *Archives of Medicine* (edited by E. C. Seguin), Vol. XI, June, 1884. I stated there that there was no justification upon pathologico-anatomical grounds for distinguishing trachoma from follicular conjunctivitis. In fact I described trachoma as a follicular disease of the conjunctiva. But I do recognize a *clinical* difference between follicular and trachomatous conjunctivitis.

The first nine volumes of my case book were destroyed by fire a few years ago; and as they contained the statistics bearing on the nationality of my cases of trachoma collected from my hospital experience, I can not send you such data as they would supply.

I have observed trachoma, and frequently, among the Irish. This simply means that the nationality of my patients at the Charity Hospital (where I have worked for thirteen years) is chiefly Irish.

As to altitude, you know it is said that trachoma does not originate in Switzerland. This immunity should, perhaps, be referred to climatic rather than mountainous conditions of the country, because the disease does spread in mountainous regions.

Last year I observed trachoma in a negro. I confirmed the diagnosis by examination of the tissues (histological examination). The patient was a full-blooded negro; his occupation that of a domestic. I feel pretty sure that the disease is contagious. I have seen the disease spread to every member of a family; but I have more frequently seen it in only one member of a family.

I saw a good deal of trachoma in China several years ago. It is a common disease among the Chinese.

DR. S. C. AYRES, Cincinnati, Ohio.—I am not one of those who class everything under trachoma. There is a vast difference between trachoma and conj. folliculosa. I read with

much interest a few years ago your observations on trachoma in the colored race. Up to that time I had never seen a genuine case among the colored people; but since then I have seen two or three cases among them. We have but few negroes here, so that our observations can not be extensive.

I enclose the report of St. Mary's Hospital on chronic trach. conjunctivitis. I think the report is correct so far as nationality is concerned, but is somewhat misleading; for *many* of the cases were the children of Irish and German parentage, judging from the names.

The worst cases we see now come from the mountains of West Virginia and from the various parts of Kentucky. We do not see proportionately as many or as severe cases as we did fifteen or twenty years ago.

REPORT OF ST. MARY'S HOSPITAL.

From United States,	98.
From Germany,	11.
From Ireland,	15.
From Italy,	1.
From Austria,	1.
Total,	126.

DR. HENRY DICKSON BRUNS, New Orleans, La.—In reply to your interrogatories:

1. I am one of those who "recognize a follicular conjunctivitis which does not lead to destruction of the conjunctival tissues, as distinct from chronic trachoma which always leads to such destruction to a greater or less degree and ends in the production of entropion." I am free to confess, however, that in the earlier stages I am not always certain of my diagnosis, but must wait upon the progress and effects of the disease.

2. The population of New Orleans is cosmopolitan in a very high degree.

3. We have a large French element and a still larger one of native Americans of pure French descent—our "Creoles." Then we have a large Italian population—"Dagoes," many Germans, Spaniards, Mexicans, and the usual proportion of Irish common to American cities.

4. Of racial influence, I can give, save in the case of the negro (pure or mixed blood), only my impressions. Of for-

eigners, the Italians, especially recent immigrants, present by far the largest number of cases of trachoma; the Irish come next; and the Germans next. In every instance it is in the new-comers to our country, State or city, that we see the majority of cases. Among our Creoles, trachoma is certainly rare, and it is but little prevalent among the natives of New Orleans of any descent.

During eight or nine years' service in the Charity Hospital I used to see more of trachoma than I do now; and my strong impression is that these cases used to come to us from other cities and spend the winter in our wards. In the Eye, Ear, Nose and Throat Hospital, where I am now in charge of the Eye Department, and where our service is a visiting one, only operative cases being admitted, I see few cases of the disease in question; a strong confirmation of the correctness of my impression. Of 4,160 cases recorded and tabulated during the years 1893-94, of which 1,290 were cases of conjunctival affections, there were but 92 cases of trachoma (2.2 per cent. of all cases and 7.1 per cent. of conjunctival cases). In the year 1895, of 647 cases of conjunctival affections, 39 were cases of trachoma (6 per cent. of all conjunctival cases). Twelve of these (36.7 per cent.) were Italians ("Dagoes") of the lowest type. Nearly all the cases I have seen have been among the very humblest of our population.

As to the prevalence of this malady among the Negroes or those of Negro blood, I can offer, not mere impressions, but actual figures. The immunity to trachoma enjoyed by the negro is well shown in the tabulated reports from my clinic for the years 1893, 1894 and 1895. The normal, fixed, or regular percentage of those of negro blood who attend to the Eye Clinic of the E. E. N. and T. Hospital is about 25 per cent., determined by a comparison of many thousand cases. In the years 1893-94, 4,160 cases were treated, and the percentage of those of negro blood was exactly 26.75 per cent. Of these 1,290 were conjunctival affections, with 92 cases of trachoma, 84 white and 8 of negro blood; about two-tenths per cent. of all conjunctival cases. In the year 1895 there were 647 cases of conjunctival affections with 39 cases of trachoma, 31 white and 8 of negro blood; rather more than one per cent. of all conjunctival cases (1.23 per cent.).

5. New Orleans is (about) at the sea level.

6. Most of the Irish affected with the disease are common laborers. The Italians are field hands, shoemakers and perambulating tinkers.

DR. P. A. CALLAN, New York City.—As to the question of trachoma in the negro, it is rarely to be seen in this section of the country. I have gone through the Colored Orphan Asylum in this city, and I can not recall any cases. I see that you use the term of follicular conjunctivitis, and so do I, the frog-spawn trachoma of some writers.

As to the racial distribution of trachoma; here in New York City, the Irish and the Jews are the greatest sufferers and the Germans and the Italians are coming to swell the lists; the Slavs furnish cases in proportion to their numbers. We have not very many Chinese who present themselves for treatment.

Trachoma to my mind is decidedly contagious; our orphan asylums are too much in evidence to deny that. Not infrequently one eye is little if any affected. If we admit that great improvement has taken place in the general hygiene of orphans and the sanitary condition of asylums, we are led to believe that the too great crowding causes the infection through the air in a certain number of cases.

With regard to private cases, I see very few in my office. Unfortunately trachoma belongs to the poor; I say unfortunately, for their poverty excludes proper attention to the disease. Without consulting reports, my impression is that we do not see many cases of trachoma as formerly in our clinics.

DR. F. B. EATON, Portland, Oregon.—The following gives result of examination of my case books for a period for which I have time to go over in the short time you have allowed me. Only true trachoma is recorded.

My cases are drawn from the city, Oregon and Washington. The races are American, German, Irish, Scandinavian, Jews, Italians, and Chinese, predominating in the order given. Negroes (pure and mixed) do not exist over 2,000 to 3,000 in the city. Population 86,000. In twenty years' practice have never seen a case of trachoma in pure or mixed negroes.

In the other races I have excluded all traumatic ocular diseases, all ametropia, lachrymal and muscular diseases, and

the numbers of each race given in total of diseases, include only affections of the eyeball and eyelids. My proportion of the excluded affections is about that of any other oculist in a city.

Total No. of Americans	144	Cases of trachoma	22	or	15.27%
" " " Germans	32	" " "	2	"	6.20%
" " " Irish	12	" " "	1	"	8.33%
" " " Jews	6	" " "	1	"	16.60%
" " " Scandinav's	8	" " "	1	"	12.50%
" " " Italians	3	" " "	0	"	0.00%

These do not include my hospital cases, of which I have no record; they have been about the same proportions.

Trachoma is proportionately frequent among the Chinese in this city, of which we have about four or five thousand. This seems due to the close, narrow quarters they occupy, generally smoky, and possibly to their diet. I have no record of Chinese cases, but have seen proportionally, many.

Altitude above the sea, 30 feet.

The dry summer season increases trachoma and intensifies it decidedly, as does high temperature. Altitude diminishes it in the Eastern part of State. (Mountains).

Have no evidence of direct transference by contagion; have never seen two persons in the same family affected that I can remember.

The only occupations I have noticed to favor trachoma are farming, herding, and constantly attending on horses. The last appears to me to decidedly favor the disease.

DR. E. E. HOLT, Portland, Maine.—In reply I would say that I am one that recognizes follicular conjunctivitis and trachoma as two distinct diseases, but I do not have enough of either to become very familiar with them. I see cases in the Jews, Scandinavians, Irish, and the native born, the frequency being in the order named.

Our altitude is but little above the sea level. The disease seems to manifest itself more in the summer. I have no direct and positive evidence that trachoma is transferred from one person to another, but circumstances have been such as to make me believe it is transferred from one person to another. Occupation does not seem to affect it one way or the other.

DR. S. LATIMER PHILLIPS, Savannah, Ga.—In reply to your letter of January 3, 1896, I would say:

1. In my opinion there are two forms of granular conjunctivitis (*a*) acute, (*b*) chronic or true trachoma.

2. True trachoma is very rare in this section of the country, and where it is found is among the poor and uncared for. The population of Savannah is of two kinds, white with a fair sprinkling of German, Irish, Jew, Italian and Chinese; the other kind, negro and mulatto. I have seen one case of trachoma in a Chinese laundryman. In an experience of nine years' practice of ophthalmology in this section, I have only seen one case of trachoma in the negro race. As to the negroes of the Sea Islands of South Carolina, I can not tell you much. Among those who have come to Savannah for eye treatment I have not seen a case of trachoma. They are of the same race as the negroes on the mainland, but from long isolation, lasting through years, with but little if any communication with other negroes or whites, they have acquired a dialect entirely distinct from that of the negroes of other sections, in fact almost wholly a language of their own. To the uninitiated it is indeed a strange and foreign tongue.

3. Savannah is situated on a sandy bluff forty feet above the river and gradually sloping to the East, South and West into lowlands. Owing to its situation land for suitable building sites comes high; and while we might call the city an openly built one, with its wide streets and frequent squares, still the poor are much crowded into certain localities with bad hygienic surroundings. Season, temperature and altitude have nothing to do with the frequency of trachoma in my opinion, but the hygienic surroundings everything.

4. I am not prepared to say that trachoma is non-contagious, though in my experience I have not seen it spread from one member of a family attacked to another. The cases I have seen have been isolated ones.

5. There are no occupations in which the disease is particularly prevalent.

DR. R. L. RANDOLPH, Baltimore, Md.—I look upon follicular conjunctivitis and trachoma as absolutely distinct. The variety leading to destruction of tissue, etc., is the only trachoma in my opinion.

Baltimore has a population of nearly 500,000. Of these 56,000 are Germans, 67,000 negroes, 5,000 are Russian Jews and the remainder Americans with some hundreds from a few other nationalities. The city is from fifty to seventy-five feet above sea level. I do not think that season, temperature, etc., influence the disease in any way.

I have never seen trachoma in a negro.

With few exceptions the disease is seen exclusively among Russian Jews, most of them tailors. I have seen a few cases where contagion was clearly traceable; but ordinarily the patient seen is the only one in the family attacked—that is, so far as I could learn from the patient.

DR. J. M. RAY, Louisville, Ky.—I believe in and recognize a difference between so-called “follicular trachoma” and the genuine “disease.”

I see in hospital and dispensary practice from eight to twelve hundred negroes yearly, and have never seen a case of genuine trachoma, the kind that produces trichiasis and entropion. I have seen a few cases of “follicular trachoma” in mulattoes, and one that was accompanied with a corneal ulcer that had been diagnosed as true trachoma; but I did not so consider it. The people in Kentucky are largely natives and emigrants from States farther East, especially Virginia. The foreign element is small, yet many of the Polish Jews suffer from true trachoma. Trachoma is quite a common disease. In fact the most frequent eye disease that I see with the exception of phlyctenular conjunctivitis. The natives suffer more than any other class I see because they are largely in the majority. There is prevalent through the southern and eastern part of this State a form of trachoma frequently non-inflammatory in its early stages, but eventually producing enormous thickenings of the lid, great corneal vascularity and much deformity from conjunctival cicatrization. It will often affect several members of the same family. I know of instances where the entire family, parents and three to five children, are all suffering from the sequelæ. These cases come from the poorer sections of the State and thinly settled neighborhoods, and I have several times tried to trace the source of contagion, but not with uniform success.

The Kentucky Institute for the Blind contains 139 white

and 36 negro inmates. Of these, 21, all whites, are blind from sequelæ of trachoma. Of these 21, three-fourths are from the eastern and southern parts of the State and from the country, and not from the cities or large towns. Laurel county, a very poor county, furnishes more than any other one county. This county is 1,200 feet above sea level and is a pauper county. Louisville is next in number. This city is 420 feet above sea level.

I have noticed that season favors the development of the disease. Generally in the spring I see quite a number of cases of acute and inflammatory trachoma that if left untreated lead to vascularity of cornea and ulceration. These cases have, however, been the ones that are the most amenable to proper treatment.

I know of many instances of contagion. An assistant in the clinic of a friend of mine had contracted trachoma during a crushing operation, and has suffered seriously from it. In three institutions under my care I have seen the disease develop as the result of the admission of an infected child; a number of the cases required much time and treatment to eradicate. These cases were, however, of the acute variety. In the chronic form with secretion, I believe that by wash basins and towels in the course of time it is transmitted, but not easily. I can not explain certain cases sometimes seen in which only one eye becomes diseased. I have known cases of this kind to go for ten years without the second eye becoming involved.

We have no Indians in this State, and the German population is small outside of this city. I have noticed that the class of cases brought here from the State are, as a rule, fair-complexioned, light-haired subjects, and have been raised on hog meat and cured meats, with a very small proportion of fresh vegetables and meats. —

DR. E. C. RIVERS, Denver Colorado.—I believe trachoma and follicular conjunctivitis are two distinct diseases, and my answers to your questions are entirely confined to trachoma—meaning usually a very chronic course ending in destruction more or less complete of the mucous membrane.

The altitude of Denver is 5,200 feet, but my patients come from all over Colorado, New Mexico, Wyoming, Kansas and Nebraska. Nationalities are of all kinds. I have practiced

here since 1881. Our climate is very dry and dusty and our sun shines nearly every day and is very bright.

I have for several years paid particular attention to the prevalence of trachoma to see if the general idea that altitude affected it favorably was correct. I have observed no difference in its frequency and severity here than I did in Baltimore when I was Dr. Chisolm's assistant for several years. I have seen it occur in Leadville (over 10,000 feet) in as severe a form as anywhere else, and at all other altitudes at which we have any towns.

This part of our country is sparsely settled. Our people live on ranches or at mines which are in most instances miles apart. We have no tenement dwellers; no crowding, except in railroad grading camps, and I find the proportion of trachomatous conjunctivitis, while less in proportion to all eye diseases here than in the East, still no less than our more favorable sanitary conditions would account for. And in the crowded grading camps it is just as frequent and just as severe without regard to altitude or season. I, at one time, began to keep exact dates on the subject; but the extreme uncertainty from my patients' history of where and when the trouble began discouraged me.

I find it is quite frequent among the Chinese, Italians, Jews, Americans and Scandinavians in the order given. The same order would represent the disregard of proper respect to sanitary laws. Of course I use the word American to represent the laboring classes of this country, not the so-called higher classes.

In regard to the Indian I have had no experience, but the Jesuit fathers who live among them inform me that they suffer a great deal from chronic sore eyes, due to the smoke and bad air in their tepees.

I have never seen a case in a negro (of full or mixed blood) although we have several thousand among us.

It naturally affects more than one member of a family.

In operating on a case in November, 1894 with Noyes' forceps I accidentally got some of the "juice" directly into my right eye. Ten days afterwards my right eye became very much inflamed and swollen with all the symptoms of acute trachoma. I could not see to read or operate for nearly five months. My left eye became affected three weeks after the

first. It only yielded to the daily application of one per cent. solution argent. nitric. to the eyelid. I could not examine my own conjunctivitis very closely, but I am satisfied that I had trachoma and from direct infection.

I find no occupation subjecting its followers to it except such as violate proper sanitary laws.

DR. S. G. SAVAGE, Nashville, Tennessee.—1. I recognize trachoma as distinct from follicular and papillary conjunctivitis.

2. I have never seen a case of trachoma in a pure negro, and not over three times in a mulatto. About 30 per cent. of our population is colored. We have some whites of foreign birth but not a great number. I have seen many cases of trachoma among the Irish, but only a few cases among the Jews. I have not had the opportunity to observe Italians, Scandinavians and Indians.

3. There is one orphanage in this city with 23 inmates, 17 of whom now have trachoma. There is an industrial school with more than 100 inmates, $33\frac{1}{3}$ per cent. of whom are said to have trachoma. (These I have not seen, but one of my pupils has seen them). I suppose no one doubts that trachoma is contagious.

DR. W. F. SOUTHARD, San Francisco, Cal.—The following results I give you for what they are worth. Trachoma is not a very prevalent disease with us, not sufficient to afford valuable data for scientific purposes. We have a cosmopolitan population; Americans, Irish, Germans, Chinese, Hebrews, Italians, Portuguese, Spanish, Japanese, Negroes, Scandinavians, English and Russians in about the order named.

Trachoma is not found among one class more than another unless it be among the Chinese. The Chinese appear in our clinics, but not in great numbers. Occasionally we learn of trachoma attacking each member of the family. Granular conjunctivitis is quite common. The altitude of San Francisco varies from a few feet above the sea level to several hundred feet at highest point in city limits. Temperature is very even throughout the year. During the summer months we have the trade winds which blow steadily from the ocean. All impurities are thus driven off and the air is kept fresh. In the winter we have but little wind, but enough rain-fall—averaging 24 inches—to keep the atmosphere clean. Possibly from these

causes we have never had any outbreak of trachoma among the poorer classes or in any public institution. In sixteen years' practice here I have had but very few cases of true trachoma.

DR. JOSEPH A. WHITE, Richmond, Va.--I want to say that I am not one of those who confound conjunctivitis with granular lids, except when the differential diagnosis is so uncertain that we can not decide which it is; but in the report of the Eye, Ear and Throat Infirmary I find that some of my assistants have been confounding follicular conjunctivitis with trachoma and hence put the number of cases in our report a little larger than it should be. We have had 43 cases of granular lids in something over 11,000 eye cases. Of this number a few might be excluded as having been cases of follicular conjunctivitis, classed under the heading of trachoma. Nearly all these were among white persons, three or four of them were among colored people, and only one case in a pure bred negro. You can see from this statement that not only negroes seem to be particularly exempt from this, but even the white population here very rarely show any signs of it. The few cases we have seen have been largely among persons who came here from a distance, several having been Russian Jews.